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What we claim is:

1. In a wireless communication system having a plurality of base stations defining a signal coverage area for communicating with a mobile-appliance, and having a mobile-appliance location determining system for determining the location of the mobile-appliance in the coverage area, a method of collecting test and measurement data, comprising the steps of:

- (a) selecting one of the plural base stations to search for a transmitting mobile-appliance;
- (b) at the selected one of the plural base stations, searching for a transmitting mobile-appliance;
- (c) once a transmitting mobile appliance is detected, determining if the quality of the signal reception from the transmitting mobile appliance is acceptable;
- (d) selecting a set of the plural base stations in the vicinity of the transmitting mobile-appliance;
- (e) at ones of the plural base stations in the selected set, measuring the signal received from the transmitting mobile-appliance; and,
- (f) storing the measured signal data.

2. The method of Claim 1 wherein the step of searching for a transmitting mobile-appliance comprises the step of scanning frequency, time slot and code as a function of a set of operating parameters of the wireless communication system.

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3. The method of claim 1 wherein the step of determining the signal quality is a function of at least one of a received signal strength, a bit error rate or a frame error rate.
4. The method of claim 1 wherein the step of measuring at one of the plural base stations in the selected set includes measuring the carrier to interference ratio and received signal strength.
5. The method of claim 1 wherein the step of measuring at one of the plural base stations in the selected set includes the steps of obtaining a signal sample from the transmitting mobile-appliance.
6. The method of claim 1, wherein the step of measuring at one of the plural base stations in the selected set includes the step of extracting information in the transmitting mobile-appliance's signal.
7. The method of Claim 6 wherein the step of extracting information includes the steps of demodulating and decoding the transmitting mobile-appliance's signal.
8. The method of Claim 6, wherein the information in the transmitting mobile-appliance's signal comprises handoff assistance data.
9. The method of Claim 5, wherein the signal sample comprises handoff assistance data.
10. The method of Claim 8 wherein the handoff assistance data comprises a received signal strength measured at the mobile appliance from at least one of the plural base stations in the selected set.

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11. The method of Claim 1, further comprising the step of aborting the collection of test and measurement data if the system is tasked to locate a mobile appliance.

12. In a method of collecting test and measurement data from a wireless communication system having a plurality of base stations defining a signal coverage area for communication with a mobile-appliance, wherein the base stations communicate with the mobile-appliance on a forward link transmission and the mobile appliance communicates with the base station on a reverse link transmission, the improvement comprising collecting forward and reverse data with equipment installed at the base stations only.

13. The method of claim 12, wherein the reverse link data and the forward link data are collected substantially simultaneously.

14. The method of claim 12, wherein the forward link data includes received signal strength from one or more neighboring base stations.

15. The method of claim 12, wherein the step of collecting forward and reverse data is accomplished during a process of geo-locating the mobile appliance.

16. The method of Claim 12, further comprising the step of extracting the reverse data from the transmitting mobile-appliances signal.

17. The method of Claim 16, wherein the step of extracting comprises the steps of demodulating and decoding a portion of the transmitting mobile-appliances signal.

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18. In a method of collecting test and measurement data in a wireless communication system having a plurality of base stations defining a signal coverage area for communicating with a mobile-appliance, the improvement wherein the test and measurement data is collected from transmissions between the mobile-appliance and the base stations during normal operation of the communication system and without adding any calling traffic to the network.

19. The method of claim 18, wherein the wireless communication system further comprises a geo-location system for locating a mobile appliance within the communication system and the test and measurement data is collected by the geo-location system.

20. In a method of collecting test and measurement data in a wireless communication system having a plurality of base stations defining a signal coverage area for communicating with a mobile-appliance, and having a mobile appliance location determining system for determining the location of the mobile appliance in the coverage area, the improvement wherein the test and measurement data is collected by the location determining system.

21. The method of claim 20, wherein the location determining system collects the data during the process of locating the mobile appliance in response to a geolocation request.

22. The method of claim 20, wherein the location determining system collects the data only when the location determining system is in an otherwise idle state.

23. The method of Claim 22, wherein the location determining system aborts the collection of data when a geolocation request is received by the location determining system.

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24. In a wireless communication system with a network overlay geo-location system for locating mobile appliances in communication with the wireless communication system, a method for system-initiated test and measurement data collection comprising the steps of:

selecting a probe area and tasking a probe geo-location sensor associated with the probe area to search for an active mobile appliance operating within the probe area;

selecting a probe mobile appliance from the probe area;

selecting other geo-location sensors proximate to the probe area to detect a signal from the probe mobile appliance;

measuring geo-location parameters and signal quality parameters of the probe mobile appliance signal at the probe geo-location sensor and at ones of the other geo-location sensors;

storing the measured signal quality parameters; and,

monitoring for receipt of a location request by the geo-location system and aborting the system-initiated test and measurement data collection after receipt of a location request by the geo-location system.

25. The method of claim 24, wherein the geo-location parameters are selected from the group of TOA and AOA measurements.

26. The method of claim 24, wherein the signal quality parameters are selected from the group of carrier signal to interference ratio, received signal strength, bit error rate, frame error rate, and signal to noise ratio.

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27. The method of claim 24, further comprising the step of extracting handoff assistance information from the probe mobile appliance.

28. The method of claim 27, wherein the step of extracting includes the step of demodulating and decoding a portion of the probe mobile appliance signal, said portion determined by frequency of handoff assistance information.

29. The method of claim 24, wherein the step of searching for an active mobile-appliance comprises the step of scanning frequency, time slot and code as a function of operating parameters of the wireless communication system.

30. In a method of operating a geo-location system that geo-locates a mobile appliance in response to an external geo-location request where the mobile appliance is in communication with a wireless communication system including a network overlay geo-location system with plural base stations where each of the base stations serves at least one sector, the improvement comprising collecting test and measurement information with the geo-location system when the geo-location system is in an otherwise idle state.

31. The method of Claim 30 wherein the collecting of test and measurement information is aborted when the geo-location system is no longer in the idle state.

32. The method of Claim 30 wherein the test and measurement information is collected without adding calling traffic to the wireless communication system.

33. The method of Claim 32 wherein the test and measurement information is collected on both forward and reverse communication links substantially simultaneously.

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34. The method of Claim 33 wherein the test and measurement information is collected on equipment installed only at ones of the plural base stations.

35. The method of Claim 30 wherein the test and measurement information is collected from plural sectors according to a predetermined schedule.

36. The method of claim 30 wherein the test and measurement information includes obtaining signal quality parameters for a probe mobile appliance.

37. The method of Claim 36 wherein the signal quality parameters are selected from the group of carrier signal to interference ratio, received signal strength, bit error rate, frame error rate, and signal to noise ratio.

38. The method of claim 36 further comprising the step of extracting handoff assistance information from the probe mobile appliance.

39. The method of claim 38 wherein the step of extracting includes the step of demodulating and decoding a portion of the signal from the probe mobile appliance wherein said portion is determined by frequency of handoff assistance information.

40. The method of claim 39 wherein the handoff assistance information includes received signal strength from ones of said plural base stations.